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10/549,478	09/15/2005	Yuji Asami	1422-0687PUS1	8134

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EXAMINER	
KOLLIAS, ALEXANDER C	

ART UNIT	PAPER NUMBER
1796	

NOTIFICATION DATE	DELIVERY MODE
04/15/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/549,478	ASAMI ET AL.	
	Examiner	Art Unit	
	ALEXANDER C. KOLLIAS	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,12-16 and 34-36* is/are pending in the application.

4a) Of the above claim(s) *17-33* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 12-16, & 34-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. All outstanding objections and rejections, except for those maintained below, are withdrawn in light of applicant's amendment filed on 12/4/2009.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

3. The new grounds of rejection set forth below are necessitated by applicant's amendment filed on 12/4/2009. In particular, original claim 1 has been amended to recite new limitations from the Specification, Specifically, claim 1 has been amended to recite that powder coating A is comprises a polyester. Thus, the following action is properly made final.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1, 12-16, and 34-36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

6. Claim 1 recites that powder coating (A) comprises a polyester as a resin and an isocyanate blocked with ε-caprolactam. However, it is noted that an examination of the Specification reveals that nowhere is it disclosed that powder coating A comprises a polyester and isocyanate blocked with ε-caprolactam. While there are embodiments disclosed in Table 1 of the Specification which comprise specific polyesters and blocked isocyanates, i.e. those species known under the trade names FINEDIC M8034 and VESTAGON B 1530, the Specification does not disclose that powder coating A comprises a generic polyester and a isocyanate blocked with ε-caprolactam as presently recited in the claims.

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umehara et al (US 5,491,202) in view of Nakamura et al (US 6,265,073) and as evidenced by Nozuki et al (US 5,229,470).

Regarding claim 1, Umehara discloses a matte powder coating composition comprising polyester resins (labeled as A and B) which exhibit different gelation rates (Column 2, Lines 50-58 and Column 4, Lines 29-58) . For polyester (A) the reference discloses that this resin has a hydroxyl value of 20 to 38 mg KOH while polyester (B) has a hydroxyl value of 100 mg KOH or more (Column 4, Lines 40-58). The reference discloses that combination of polyesters with differing hydroxyl values results in a powder coating compositions having varying or different

reaction rates (Column 4, Lines 29-43). Additionally, the reference discloses that the compositions comprises pigment and a hardener such as isocyanates blocked with ε-caprolactam (Column 6, Lines 5-25 and Lines 61-67).

Although the reference does not explicitly disclose a powder coating composition comprising "powder coating A" and "powder coating B", given that the powder coating of the reference comprises polyester resins, curing agents, and colorants identical to that claimed in the presently claimed "powder coating A" and further comprising polyester resins and curing agents identical to those used in "powder coating B" such that the powder coating of the reference contains the identical compositions of the present claims, it is clear that the reference meets the present claims.

Further given that the reference discloses polyesters with hydroxyl values identical to those utilized in the present invention, it is the Examiner's position that "powder coating B" of the reference will intrinsically have a gelation time of 1,200 seconds or less and the difference in the gelation time of the "powder coating B" and "powder coating A" will intrinsically be 400 seconds or more. Evidence to support this position is found in Nozuki et al which discloses that polyesters with a low hydroxyl number have a higher or longer gel time while polyester with a higher hydroxyl number have a shorter gel time (Column 2, Lines 56-67).

The reference discloses all the claim limitations as set forth above. However, Umehara does not disclose that the powder coating compositions comprise isocyanate blocked by methyl ethyl ketone oxime.

Nakamura et al discloses coating compositions comprising blocked isocyanate groups such as diisocyanate, and hexamethylene diisocyanate (Column 17, Lines 16-23). The reference

discloses an isocyanate compound known under the trade name VESTANAT B 1358/100 (Column 17, Lines 24-30). Additionally, the reference discloses that these blocked isocyanate compounds result in coating compositions which have weather resistance as well as storage stability and thermal curability properties to the coating compositions (Column 17, Lines 15-30). It is noted that although the reference does not explicitly disclose that the blocked isocyanate compound, VESTANAT B 1358/100 comprises the blocking agent methyl ethyl ketone oxime. However it is the Examiner's position that the compound disclosed by Nakamura comprises the above blocking agent given that this compound is identical to the blocking agent utilized in the present invention.

Given that both Umehara and Nakamura et al are drawn to coating compositions, in light of the particular advantages provided by the use and control of blocked isocyanates as taught by Nakamura, it would therefore have been obvious to one of ordinary skill in the art to include such compounds in the composition disclosed by Umehara with a reasonable expectation of success.

Regarding claim 14, Umehara teaches all the claim limitations as set forth above. Additionally, Umehara discloses that the compositions comprising 10 to 30 wt % of the polyester (B), meeting the limitations recites in the present claims drawn to powder coating (B) comprising 30 wt % or less.

9. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umehara et al (US 5,491,202) in view of Nakamura et al (US 6,265,073) and as evidenced by Nozuki et al

(US 5,229,470) as applied to claims 1 and 14 above and further in view of Itakura et al (US 6,146,145).

Regarding Claims 12-13, modified Umehara teaches all the limitations as set forth above. However, Umehara et al does not teach that powder coating (A) comprises two more kinds of color coatings having different hues. Furthermore, the reference does not disclose that the differences in lightness of the two or more color powder coatings having different hues are within 30.

Itakura et al teaches a powder coating comprising a plurality of colors which are added to the powder coating composition for color matching (Abstract, Column 3, Lines 55-67 and Column 4, Lines 1-9). Furthermore, the reference discloses that a variety of cyan, magenta, and yellow pigments can be used, thus meeting the limitation that the color powder coatings have different hues (Column 4, Lines 1-9).

The reference does not explicitly disclose that the difference of the two or more color powder coatings is within 30. However, given that Umehara teaches a powder coating composition comprising pigment and Itakura et al discloses a powder coatings comprising a variety of different colors and hues it would have been obvious to one of ordinary skill in the art at the time the invention was made to augment the powder coating of Umehara to include a variety of colors, as well as different hues of the same color as taught by Itakura et al, as doing so would amount to nothing more than use of known composition for its intended use, in a known environment to accomplish entirely expected results.

10. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Umehara et al (US 5,491,202) in view of Nakamura et al (US 6,265,073) and as evidenced by Nozuki et al (US 5,229,470) as applied to claims 1 and 14 above and further in view of Satoh et al (EP 0,950,694).

Regarding Claim 15, modified Umehara teaches all the limitations as set forth above. However, Umehara does not disclose that the powder coating (B) has an average particle size of 25 μm of less and the difference in the particle sizes between (A) and (B) is within ±15 %.

Satoh et al teaches a thermosetting powder coating composition comprising curing agents ,pigments, and resins. Furthermore, the reference discloses that the average particle size of powders (A) and (B) is 5 to 30 μm (Page 7, [0068]). If the size of the particles is less than 5 μm, reduced transfer efficiency may result, whereas if the particle size is greater than 30 μm, the particle when formed into a filed may provide a poor surface smoothness (Page 7, [0068]).

It is the examiner's position that the average particle size of coatings (A) and (B) are result effective variables because changing them will clearly affect the type of product obtained. See MPEP § 2144.05 (B). Case law holds that "discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art." See In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

In view of this, it would have been obvious to one of ordinary skill in the art to utilize appropriate particle sizes, including those within the scope of the present claims, so as to produce desired end results.

11. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Umehara et al (US 5,491,202) in view of Nakamura et al (US 6,265,073) and as evidenced by Nozuki et al (US

5,229,470) as applied to claims 1 and 14 above and further in view of Shiomi et al (US 5,523,349).

Regarding Claim 16, modified Umehara teaches all the limitations as set forth above. However, the reference does not disclose that the powder coating (B) has a standard deviation of the particles size of 20 μm or less.

Shiomi et al teaches a powder coating composition comprising an acrylic resin and surface modifier such that the powder coating composition preferably has a volume average particle size of 5 to 50 μm, more preferably 8 to 40 μm (Column 1, Lines 57-67, Column 2 Lines 54-62, and Column 5, Lines 11-22). Regarding the particle size, the reference discloses that when the average particle size is in the range of 5 to 20 μm, particles of not more than 5 μm in size are preferably at a rate of not more than 25 % by weight. On the other hand, when the average particle size is in the range of 20 to 50 μm the standard deviation of particle size distribution is preferably not more than 20 μm (Column 5, Lines 11-22).

Given that Umehara et al and Shiomi et al are drawn to powder compositions comprising polymers such as acrylic resins and carboxylic acids, in view of particle sizes and their standard deviations as disclosed by Shiomi et al, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the powder composition of Umehara and augment the particle size of the composition to that disclosed by Shiomi et al, as doing so would amount to nothing more than use of known composition for its intended use, in a known environment to accomplish entirely expected results.

12. Claims 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umehara et al (US 5,491,202) in view of Nakamura et al (US 6,265,073) and as evidenced by Nozuki et al (US 5,229,470) as applied to claims 1 and 14 above and further in view of Harada et la (US 6,509,420) and Ohkoshi et al (US 5,945,487).

Regarding claim 34, modified Umehara discloses all the claim limitations as set forth above. However, Umehara does not disclose a composition comprising an acrylic resin having epoxy groups with a weight average molecular weight from 5,000 to 100,00 and an epoxy equivalence from 250 to 600 g/mol.

Harada discloses an epoxy group containing acrylic resin for powder coating compositions which has a weight-average molecular weight of 3,000 to 20,000 (Abstract, Column 3, Lines 63-67 and Column 4, Lines 1-4). The reference discloses that the acrylic resin with the above molecular weight range yields a compositions with film hardness and excellent smoothness (Column 3, Lines 63-67 and Column 4, Lines 1-4). Additionally, the reference discloses that the acrylic resin has an epoxy equivalent weight of 350 to 1,200 g/eq (Column 4, Lines 28-35). The reference discloses that the above range of epoxy equivalent yields a coating film with excellent hardness, solvent resistance, as well as storage stability (Column 4, Lines 28-40). The reference discloses that the epoxy resin yields a coating composition having properties such as workability, productivity, and smoothness (Column 2, Lines 40-44).

Given that both Umehara and Harada are drawn to powder coating compositions, in light of the particular advantages provided by the use and control of the epoxy resin as taught by Harada, it would therefore have been obvious to one of ordinary skill in the art to include such

resins in the powder coating composition disclosed by Umehara with a reasonable expectation of success.

Modified Umehara teaches all the claim limitations as set forth above. However, Umehara does not disclose that the powder coating compositions comprises dodecanoic acid.

Ohkoshi et al discloses a powder coating compositions comprising a vinyl copolymer comprising epoxy groups and a curing agent (Column 1, Lines 40-49). The reference discloses that the curing agent for the vinyl copolymer are polycarboxylic acid such as dodecanoic acid which achieved crosslinking by the reaction with the epoxy groups found on the vinyl copolymer (Column 4, Lines 22-35).

Given that both modified Umehara et al and Ohkoshi are drawn to powder coating compositions comprising acrylic or vinyl resin comprising epoxy groups, in light of the particular advantages provided by the use and control of acids as taught by Ohkoshi, it would therefore have been obvious to one of ordinary skill in the art to include such compounds in the composition disclosed by modified Umehara with a reasonable expectation of success.

Regarding claims 35-36, modified Umehara teaches all the claim limitations as set forth above. However modified Umehara does not disclose that the acrylic resin has a hexane tolerance from 3.0 to 8.5 and from 4.0 to 8.0. However, these limitations are expected to be present in modified Umehara because the acrylic epoxy resin in the reference is identical in composition to the epoxy resin claimed in the instant application. "Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or

obviousness has been established." In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

13. Claims 1 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umehara et al (US 5,491,202) in view of Nakamura et al (US 6,265,073) Nozuki et al (US 5,229,470) and Ring et al (US 6,531,524).

Regarding claim 1, Regarding claim 1, Umehara discloses a matte powder coating composition comprising polyester resins (labeled as A and B) which exhibit different gelation rates (Column 2, Lines 50-58 and Column 4, Lines 29-58) . For polyester (A) the reference discloses that this resin has a hydroxyl value of 20 to 38 mg KOH while polyester (B) has a hydroxyl value of 100 mg KOH or more (Column 4, Lines 40-58). The reference discloses that combination of polyesters with differing hydroxyl values results in a powder coating compositions having varying or different reaction rates (Column 4, Lines 29-43). Additionally, the reference discloses that the compositions comprises pigment and a hardener such as isocyanates blocked with ε-caprolactam (Column 6, Lines 5-25 and Lines 61-67).

Although Umehara discloses that the polyesters have different gelation times, the reference does not explicitly disclose that "powder coating (B)" has a gelation time of 1,200 seconds or less and the difference in gelation time of the "powder coating (B)" and the "powder coating (A)" is 400 seconds or more.

Nozaki et al discloses a powder coating composition comprising two polyester resins where the difference in the gelation time of the polyesters is at least 6 minutes (Column 3, Lines 1-26). Further the reference discloses that the gelation time of each polyester resin is controlled

by, and depends on, the hydroxyl value (column 2, Lines 56-68). A polyester with a lower hydroxyl number yield a longer gelation time while a polyester with higher hydroxyl numbers will result in shorter gelation times (Column 2, Lines 56-68)

Given that Umehara discloses a matte or low gloss powder coating composition comprising polyesters with varying hydroxyl numbers, and given that Nozaki discloses that the finish, i.e., gloss-type or matte-type, as well as gelation time of polyesters in powder coating compositions can be adjusted by controlling the hydroxyl numbers of the polyester resins, it therefore would have been obvious to one of ordinary skill in the art, to modify the hydroxyl numbers of the polyester resins disclosed by Umehara to obtain a powder coating composition with varying gelation times, including the gelation times presently claimed.

Modified Umehara discloses all the claim limitations as set forth above. However, the reference does not disclose that the matter powder coating composition comprises two separate powder coating compositions, i.e., A and B, as presently claimed.

Ring et al discloses gloss reduction techniques for powder coating compositions, including techniques utilizing resins with different gelation rates (Column 2, Lines 1-40). The reference discloses that for polyesters, a fast gelling powder and a slow gelling powder may be manufactured separately utilizing polyesters having different functionality and mixed either prior or after micronization of the polyesters (Column 2, Lines 20-27).

Given that the reference discloses method of obtaining polyester-based powder coatings compositions which have reduced gloss, it therefore would have been obvious to one of ordinary skill in the art to mix polyesters with different functionalities together as taught by the reference with a reasonable expectation of success.

Modified Umehara discloses all the claim limitations as set forth above. However, Umehara does not disclose that the powder coating compositions comprises blocked isocyanate which is blocked by methyl ethyl ketone oxime.

Nakamura et al discloses a coating compositions comprising blocked isocyanate groups such as diisocyanate, and hexamethylene diisocyanate (Column 17, Lines 16-23). The reference discloses isocyanate compounds known under the trade name VESTANAT B 1358/100 (Column 17, Lines 24-30). Additionally, the reference discloses that these blocked isocyanate compounds result in coating compositions which have weather resistance as well as storage stability and thermal curability properties to the coating compositions (Column 17, Lines 15-30). It is noted that although the reference does not explicitly disclose that the blocked isocyanate compound, VESTANAT B 1358/100 comprises the blocking agent methyl ethyl ketone oxime. However it is the Examiner's position that the compound disclosed by Nakamura comprises the above blocking agent given that this compound is identical to the blocking agent utilized in the present invention.

Given that both Umehara and Nakamura et al are drawn to coating compositions, in light of the particular advantages provided by the use and control of the blocked isocyanates as taught by Nakamura, it would therefore have been obvious to one of ordinary skill in the art to include such compounds in the composition disclosed by Umehara with a reasonable expectation of success.

Regarding claim 14, Umehara teaches all the claim limitations as set forth above. Additionally, Umehara discloses that the compositions comprising 10 to 30 wt % of the polyester

(B), meeting the limitations recite in the present claim drawn to powder coating (B) comprising 30 wt % or less.

14. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umehara et al (US 5,491,202) in view of Nakamura et al (US 6,265,073) Nozuki et al (US 5,229,470) and Ring et al (US 6,531,524).as applied to claims 1 and 14 above and further in view of Itakura et al (US 6,146,145).

Regarding Claims 12-13, modified Umehara teaches all the limitations as set forth above. However, Umehara et al does not teach that powder coating (A) comprises two more kinds of color coatings having different hues. Furthermore, the reference does not disclose that the differences in lightness of the two or more color powder coatings having different hues are within 30.

Itakura et al teaches a powder coating comprising a plurality of colors which are added to the powder coating composition for color matching (Abstract, Column 3, Lines 55-67 and Column 4, Lines 1-9). Furthermore, the reference discloses that a variety of cyan, magenta, and yellow pigments can be used, thus meeting the limitation that the color powder coatings have different hues (Column 4, Lines 1-9).

The reference does not explicitly disclose that the difference of the two or more color powder coatings is within 30. However, given that Umehara teaches a powder coating composition comprising pigment and Itakura et al discloses a powder coatings comprising a variety of different colors and hues it would have been obvious to one of ordinary skill in the art at the time the invention was made to augment the powder coating of Umehara to include a

variety of colors, as well as different hues of the same color as taught by Itakura et al, as doing so would amount to nothing more than use of known composition for its intended use, in a known environment to accomplish entirely expected results.

15. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Umehara et al (US 5,491,202) in view of Nakamura et al (US 6,265,073) Nozuki et al (US 5,229,470) and Ring et al (US 6,531,524) as applied to claims 1 and 14 above and further in view of Satoh et al (EP 0,950,694).

Regarding Claim 15, modified Umehara teaches all the limitations as set forth above. However, Umehara does not disclose that the powder coating (B) has an average particle size of 25 μm of less and the difference in the particle sizes between (A) and (B) is within ±15 %.

Satoh et al teaches a thermosetting powder coating composition comprising curing agents ,pigments, and resins. Furthermore, the reference discloses that the average particle size of powders (A) and (B) is 5 to 30 μm (Page 7, [0068]). If the size of the particles is less than 5 μm, reduced transfer efficiency may result, whereas if the particle size is greater than 30 μm, the particle when formed into a filed may provide a poor surface smoothness (Page 7, [0068]).

It is the examiner's position that the average particle size of coatings (A) and (B) are result effective variables because changing them will clearly affect the type of product obtained. See MPEP § 2144.05 (B). Case law holds that "discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art." See In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

In view of this, it would have been obvious to one of ordinary skill in the art to utilize appropriate particle sizes, including those within the scope of the present claims, so as to produce desired end results.

16. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Umehara et al (US 5,491,202) in view of Nakamura et al (US 6,265,073) Nozuki et al (US 5,229,470) and Ring et al (US 6,531,524) as applied to claims 1 and 14 above and further in view of Shiomi et al (US 5,523,349).

Regarding Claim 16, modified Umehara teaches all the limitations as set forth above. However, the reference does not disclose that the powder coating (B) has a standard deviation of the particles size of 20 μm or less.

Shiomi et al teaches a powder coating composition comprising an acrylic resin and surface modifier such that the powder coating composition preferably has a volume average particle size of 5 to 50 μm, more preferably 8 to 40 μm (Column 1, Lines 57-67, Column 2 Lines 54-62, and Column 5, Lines 11-22). Regarding the particle size, the reference discloses that when the average particle size is in the range of 5 to 20 μm, particles of not more than 5 μm in size are preferably at a rate of not more than 25 % by weight. On the other hand, when the average particle size is in the range of 20 to 50 μm the standard deviation of particle size distribution is preferably not more than 20 μm (Column 5, Lines 11-22).

Given that Umehara et al and Shiomi et al are drawn to powder compositions comprising polymers such as acrylic resins and carboxylic acids, in view of particle sizes and their standard deviations as disclosed by Shiomi et al, it would have been obvious to one of ordinary skill in the

art at the time of the invention to use the powder composition of Umehara and augment the particle size of the composition to that disclosed by Shiomi et al, as doing so would amount to nothing more than use of known composition for its intended use, in a known environment to accomplish entirely expected results.

17. Claims 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umehara et al (US 5,491,202) in view of Nakamura et al (US 6,265,073) Nozuki et al (US 5,229,470) and Ring et al (US 6,531,524) as applied to claims 1 and 14 above and further in view of Harada et la (US 6,509,420) and Ohkoshi et al (US 5,945,487).

Regarding claim 34, modified Umehara discloses all the claim limitations as set forth above. However, Umehara does not disclose a composition comprising an acrylic resin having epoxy groups with a weight average molecular weight from 5,000 to 100,00 and an epoxy equivalence from 250 to 600 g/mol.

Harada discloses an epoxy group containing acrylic resin for powder coating compositions which has a weight-average molecular weight of 3,000 to 20,000 (Abstract, Column 3, Lines 63-67 and Column 4, Lines 1-4). The reference discloses that the acrylic resin with the above molecular weight range yields a compositions with film hardness and excellent smoothness (Column 3, Lines 63-67 and Column 4, Lines 1-4). Additionally, the reference discloses that the acrylic resin has an epoxy equivalent weight of 350 to 1,200 g/eq (Column 4, Lines 28-35). The reference discloses that the above range of epoxy equivalent yields a coating film with excellent hardness, solvent resistance, as well as storage stability (Column 4, Lines 28-

40). The reference discloses that the epoxy resin yields a coating composition having properties such as workability, productivity, and smoothness (Column 2, Lines 40-44).

Given that both Umehara and Harada are drawn to powder coating compositions, in light of the particular advantages provided by the use and control of the epoxy resin as taught by Harada, it would therefore have been obvious to one of ordinary skill in the art to include such resins in the powder coating composition disclosed by Umehara with a reasonable expectation of success.

Modified Umehara teaches all the claim limitations as set forth above. However, Umehara does not disclose that the powder coating compositions comprises dodecanoic acid.

Ohkoshi et al discloses a powder coating compositions comprising a vinyl copolymer comprising epoxy groups and a curing agent (Column 1, Lines 40-49). The reference discloses that the curing agent for the vinyl copolymer are polycarboxylic acid such as dodecanoic acid which achieved crosslinking by the reaction with the epoxy groups found on the vinyl copolymer (Column 4, Lines 22-35).

Given that both modified Umehara et al and Ohkoshi are drawn to powder coating compositions comprising acrylic or vinyl resin comprising epoxy groups, in light of the particular advantages provided by the use and control of acids as taught by Ohkoshi, it would therefore have been obvious to one of ordinary skill in the art to include such compounds in the composition disclosed by modified Umehara with a reasonable expectation of success.

Regarding claims 35-36, modified Umehara teaches all the claim limitations as set forth above. However modified Umehara does not disclose that the acrylic resin has a hexane

tolerance from 3.0 to 8.5 and from 4.0 to 8.0. However, these limitations are expected to be present in modified Umehara because the acrylic epoxy resin in the reference is identical in composition to the epoxy resin claimed in the instant application. "Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established." In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

Double Patenting

18. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

19. Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 1 and 10 of copending Application No. 11/344,009 in view of Klaren (US 3,842,035).

Claim 1 of copending Application No. 11/344,009 recite a powder coating composition comprising a pigment a thermosetting powder, and a hydroxyalkylamide curing agent. While the copending Application does not claim that the resin is a polyester, note that Page 6, Line 21 of the Specification discloses that the resin maybe a polyester. Case law holds that those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in an application defines an obvious variation of an invention claimed in the patent. In re Vogel, 422 F.2d 438, 164 USPQ 619,622 (CCPA 1970).

While the claims in both applications are open to the inclusion of additional ingredients (cf. the use of "comprising" in the claims), it is noted that Claim 1 of copending Application No. 11/6344,009 lacks a gelation time of powder coating (B) is less than 1200 second and the difference in the gelation time of the powder coating (B) and (a) is 400 second or more.

Umehara discloses a matte powder coating composition comprising polyester resins (labeled as A and B) which exhibit different gelation rates (Column 2, Lines 50-58 and Column 4, Lines 29-58) . For polyester (A) the reference discloses that this resin has a hydroxyl value of 20 to 38 mg KOH while polyester (B) has a hydroxyl value of 100 mg KOH or more (Column 4, Lines 40-58). The reference discloses that combination of polyesters with differing hydroxyl values results in a powder coating compositions having varying or different reaction rates (Column 4, Lines 29-43). Additionally, the reference discloses that the compositions comprises pigment and a hardener such as isocyanates blocked with ε-caprolactam (Column 6, Lines 5-25 and Lines 61-67).

Given that copending application recites a powder coating composition comprising thermosetting resin, curing agents and pigment and Umehara discloses a powder compositions comprising blocked isocyanate curing agents and polyesters resins with differential gelling times, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the composition of copending U.S. application 11/344,009 with the curing agent and polyester resins disclosed by Umehara and thereby arrive at the currently claimed invention.

This is a provisional obviousness-type double patenting rejection.

Response to Arguments

20. Applicant's arguments with respect to claims 1, 12-16, and 34-36 have been considered but are moot in view of the new ground(s) of rejection.

21. Applicant argues that Klaren does not disclose a powder coating comprising polyester. However the deficiencies in Klaren are remedied by Umehara in the rejections set forth above.

Conclusion

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER C. KOLLIAS whose telephone number is (571)-270-3869. The examiner can normally be reached on Monday-Friday, 8:00 AM -5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571)-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. C. K./
Examiner, Art Unit 1796

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796